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| EXAMINER |
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LEE, JOHN W

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| ART UNIT | PAPER NUMBER |
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2624

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|--|--------------------------------------|------------------------------------|--|
| <p align="center">Office Action Summary</p> | Application No. 10/775,177 | Applicant(s) OHTA ET AL. | |
| | Examiner John Wahnkyo Lee | Art Unit 2624 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-19 is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 9, 11-12 and 20-30 is/are rejected.
- 7) ☐ Claim(s) 6, 8 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :20040211, 20050408, and 20050525.

DETAILED ACTION

Information Disclosure Statement

1. An initialed and dated copies of Applicant's IDS form 1449-Paper No. 20040211, 20050408, and 20050525, are attached to the instant Office action.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract has more than 150 words. The examiner requires the applicant to fix this problem.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

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4. Claims 11, 18, and 29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 11, 18, and 29 are drawn to functional descriptive material NOT claimed as residing on a computer readable medium. MPEP 2106.IV.B.1(a) (Functional Descriptive Material) states:

"Data structures not claimed as embodied in a computer-readable medium are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer."

"Such claimed data structures do not define any structural or functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized."

Claims 11, 18, and 29, while defining a program, does not define a "computer-readable medium" and is thus non-statutory for that reasons. A program can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on "computer-readable medium" in order to make the claim statutory.

"In contrast, a claimed computer-readable medium encoded with the data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory." - MPEP 2106.IV.B.1(a)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2, 4, 9, 11-12, and 20-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cullen et al. (US 5,933,823) in view of Yamazaki (US 2002/0044686).

Regarding claim 1, Cullen discloses an image processing method comprising (abstract): a search step of searching for original digital data stored in storage means on the basis of an input image (abstract; col. 3, lines 46-54 and 63-67); an extraction step of extracting difference information by comparing the original digital data retrieved in the search step and the input image (abstract; col. 3, lines 46-54 and 63-67, col. 4, lines 1-18). The comparing the similarity of the features is equivalent to comparison of the difference of the features. So, it is readily apparent and inherent that if the invention compares with the similarities of the features, it will also have to go through the comparison of the difference. However, Cullen does not disclose rest of the claim limitations of claim 1, but Yamazaki does. Yamazaki discloses a vectorization step of converting the difference information extracted in the extraction step into vector data (Fig. 1-14 and 2-S14; page 3, paragraph [0048]) and a composition step of compositing the difference information that has been converted into the vector data to the original digital data (Fig. 1-16 and 2-S16; page 3, paragraphs [0048], [0050], and [0053]).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use Yamazaki's invention in Cullen's invention to provide an improved image processing device, program produce, and method as suggested by Yamazaki (page 1, paragraph [0011]).

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Regarding claim 2, Cullen further discloses a storage step of storing new digital data which is generated as a result of the composition process in the composition step in the storage means (Fig. 1-52; page 2, paragraph [0038]).

Regarding claim 4, Yamazaki further discloses the vectorization step includes a step of executing vectorization on the basis of a character recognition result of the difference information (Fig. 1-14 and 2-S14; page 3, paragraph [0048]).

Regarding claim 9, Yamazaki further discloses a format conversion step of converting the new digital data which is generated by the composition process in the composition step into a prescribed format that an existing document creation application can handle (Fig. 1-17; page 2, paragraph [0034]).

Regarding claim 11, Cullen discloses that the invention can be software on a storage medium (claims 26-36). Moreover, claim 11 is analogous and corresponds to claim 1. See rejection of claim 1 for further explanation.

Regarding claim 12, claim 12 construes a means plus function for the claim limitation to invoke 35 U.S.C. 112 sixth paragraph by meeting the following 3-prong analysis:

- (A) the claim limitations must use the phrase "means for " or "step for"
- (B) the "means for" or "step for " must be modified by functional language
- (C) the phrase "means for " or "step for " must not be modified by sufficient structure, material, or acts for achieving the specified function.

"search means for ...", "extraction means for ...", "vectorization means for ...", and "composition means for ..." corresponds to paragraphs [0014]-[0017], respectively.

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Moreover, claim 12 is analogous and corresponds to claim 1. See rejection of claim 1 for further explanation.

Regarding claim 20, Cullen discloses an image processing method comprising (abstract): a specific region designation step of designating a specific region of an input image (Figs. 3 and 4; col. 4, lines 45-67; col. 5, lines 1-50). However, Cullen does not disclose the vectorization step of converting an image of the designated specific region into vector data. Instead of Cullen, Yamazaki discloses the "vectorization steps ..." (Fig. 1-14 and 2-S14; page 3, paragraph [0048]).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use Yamazaki's invention in Cullen's invention to provide an improved image processing device, program produce, and method as suggested by Yamazaki (page 1, paragraph [0011]).

Regarding claim 21, Yamazaki further discloses a region segmentation step of segmenting the input image into regions for respective properties (Fig. 1-12; paragraph [0044]-[0046]), and Cullen further discloses the specific region designation step includes a step of designating a selected one of the regions segmented in the region segmentation step as the specific region (Fig. 4; col. 5, lines 18-50).

Regarding claim 22, Cullen further discloses wherein the specific region designation step includes a step of displaying information indicating regions segmented in the region segmentation step and the input image, and designating a selected one of the displayed regions as the specific region (Fig. 4; col. 5, lines 18-50).

Regarding claim 23, Cullen further discloses a file extraction step of extracting an

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original data file which has identical or similar contents from original data files registered in a database on the basis of the vector data obtained by converting the image data of the specific region (abstract; col. 3, lines 46-54 and 63-67, col. 4, lines 1-18).

Regarding claim 24, Yamazaki further discloses a file generation step of generating an image data file by compositing the vector data obtained by converting the image data of the specific region and image data of regions other than the specific region in the input image (Fig. 1-16 and 2-S16; page 3, paragraphs [0048], [0050], and [0053]).

Regarding claim 25, Yamazaki further discloses an application data conversion step of converting data in a predetermined format into a data format that application software can handle on the basis of the converted vector data of the specific region, and image data of regions other than the specific region (Fig. 1-17; page 2, paragraph [0034]).

Regarding claim 26, Cullen further discloses an image input step of inputting the input image obtained by scanning an image (Figs. 1-34 and 2-202; col. 3, lines 55-62).

Regarding claim 27, Yamazaki further discloses the vectorization step includes a step of converting image data of the input image into command definition type data such as code information, graphic information, function information, and the like (Fig. 1-14 and 2-S14; page 3, paragraph [0048]).

Regarding claim 28, Regarding claim 12, claim 12 construes a means plus function for the claim limitation to invoke 35 U.S.C. 112 sixth paragraph by meeting the following 3-prong analysis:

- (A) the claim limitations must use the phrase "means for " or "step for"
- (B) the "means for" or "step for " must be modified by functional language
- (C) the phrase "means for " or "step for " must not be modified by sufficient structure, material, or acts for achieving the specified function.

"specific region designation for ..." and "vectorization means for ..." corresponds to paragraphs [0024] and [0025], respectively. Moreover, claim 28 is analogous and corresponds to claim 20. See rejection of claim 20 for further explanation.

Regarding claims 29, Cullen discloses that the invention can be software on a storage medium (claims 26-36). Moreover, claim 29 is analogous and corresponds to claim 20. See rejection of claim 20 for further explanation.

Regarding claims 30, Cullen discloses that the invention can be software on a storage medium (claims 26-36).

7. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cullen et al. (US 5,933,823) in view of Yamazaki (US 2002/0044686), and further in view of Smutek et al. (US 4,553,206).

Regarding claim 3, Cullen and Yamazaki disclose all the previous claim limitations except the claim limitation of claim 3. However, Smutek discloses the search step includes a step of recognizing an identifier which is appended to the input image and indicates a storage address of the original digital data, and searching for the original digital data on the basis of the recognition result of the identifier (FIGS. 2-4; col. 6, lines 5-30).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use Yamazaki's invention and Smutek's invention in Cullen's invention to provide an improved arrangement and technique utilizing graphics and image information as suggested by Smutek (col. 2, lines 6-10).

Regarding claim 7, Yamazaki further discloses a print control step of printing out the digital data stored in the storage step while appending information indicating a storage address of that digital data to the digital data (Fig. 1-51; page 2, paragraph [0038]).

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cullen et al. (US 5,933,823) in view of Yamazaki (US 2002/0044686), and further in view of Yamakawa et al. (US 5,515,179).

Regarding claim 5, Cullen and Yamazaki disclose all the previous claim limitations except the claim limitation of claim 5. However, Yamakawa discloses the vectorization step includes a step of executing vectorization by generating outline data based on outlines of the difference information (abstract; Fig. 1-100, 2, and 3; col. 8, lines 46-65).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use Yamazaki's invention and Yamakawa's invention in Cullen's invention to provide a method and apparatus capable of executing image processing by using outline information of the image as suggested by Yamakawa (col. 1, lines 9-11).

Allowable Subject Matter

9. Claims 6, 8, and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 13-19 are allowed for reasons as follows:

Regarding claim 13, no prior arts read on the claim limitations, "a checking step ..." and "wherein the vectorization ..." that comprise conditional statements.

Regarding claims 14-16, the claims are allowed for being a dependent claim of claim 13.

Regarding claim 17, no prior arts read on the claim limitations, "checking means for ..." and "vectorization means for ..." that comprise conditional statements.

Regarding claim 18, no prior arts read on the claim limitations, "a code for implementing a checking step ..." and "a code for implementing a vectorization step ..." that comprise conditional statements.

Regarding claim 19, no prior arts read on the claim limitations, "a code for implementing a checking step ..." and "a code for implementing a vectorization step ..." that comprise conditional statements.

Conclusion

11. Claims 1-5, 7, 9, 11-12, and 20-30 are rejected.

12. Claims 6, 8, and 10 are objected.

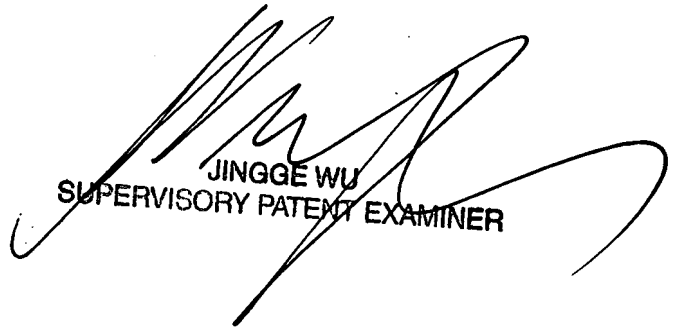
13. Claims 13-19 are allowed.

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14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Wahnkyo Lee whose telephone number is (571) 272-9554. The examiner can normally be reached on Monday - Friday (Alt.) 7:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


JINGGE WU
SUPERVISORY PATENT EXAMINER

John W. Lee
(AU 2624)